

Confirmation No. 7528

PATENT

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Applicant:	HAISMA	Examiner:	Langman, J.
Serial No.:	10/539,260	Group Art Unit:	1794
Filed:	June 15, 2005	Docket No.:	NL021443US1 (NXPS.513PA)
Title:	STRESS-FREE COMPOSITE SUBSTRATE AND METHOD OF MANUFACTURING SUCH A COMPOSITE SUBSTRATE		

REPLY BRIEF

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P.O. Box 1450
Alexandria, VA 22313-1450

Customer No. 65913

Dear Sir:

This is a Reply Brief submitted pursuant to 37 C.F.R. § 41.41(a)(1) for the above-referenced patent application. This Reply Brief is submitted in response to the Examiner's Answer dated February 19, 2010, and in further response to the Final Office Action dated September 3, 2009.

Only if required, authorization is given to charge/credit Deposit Account 50-4019 (NL021443US1) any requisite fees/overages to enter this paper.

I. Status of Claims

Claims 1-10 and 21-28 stand rejected and are presented for appeal. Claims 11-20 have been cancelled.

II. Grounds of Rejection

The grounds of rejection to be reviewed on appeal are as follows:

- A. Claims 1-10 and 21-28 stand rejected under 35 U.S.C. § 102(b) over the Habberger reference (U.S. Patent No. 6,417,075).
- B. Claims 9 and 27 stand rejected under U.S.C. § 103(a) over the over the Habberger reference (U.S. Patent No. 6,417,075).

III. Appellant's Reply Argument

The §§ 102 and 103 rejections fail to establish correspondence to the claimed invention, and aspects of the cited reference contradict the assertions made in the (final) Office Action and the Examiner's Answer. More specifically, the '075 reference fails to disclose various limitations including those directed to a carrier having a surface and pillar extensions that extend from the surface, with the pillar extensions having rounded corners that form a gradual interface between the sidewalls of the pillar extensions and the surface of the carrier. The Examiner continues to confuse the unrelated teachings of the '075 reference directed to the different cross-sectional shapes of the channels 5 (as shown by the four example cross-sections at the bottom of Figure 3) with the example shapes of the lateral extension of the channels 5. *See, e.g.*, Col.7:36-38 and Col. 7:45-48.

The Examiner acknowledges that in order to show correspondence the pillar extension corners of the '075 reference must be rounded in a cross-sectional view of the channels. In an attempt to provide correspondence to the Examiner cites to two portions of the cited reference, Col. 4:40-53 and Col. 7:35-40. The first section cited mentions the cross-section of the channel, but makes no mention of a rounded corner. The second section cited, discusses exemplary shapes of the channels, including round, but does not link the shape discussion to the cross-sectional view of the channel. In fact, just below the cited portion, the '075 reference again gives example shapes of the channel, this time specifically referring to the examples as cross-sectional

shapes and referring to Figure 3. The example cross-sectional shapes of Figure 3 do not include cross-sections with rounded corners.

Taking the '075 reference as a whole, it is clear that in describing the geometric configuration of the channels, the '075 reference contemplates a "shape of [the channels] lateral extension," Col. 7:29 and "different cross-sectional shapes of channels," Col 7:45-46. The Examiner is erroneously asserting that the exemplary shapes of Column 7, lines 35-40 refer to the cross-sectional shape of the channel and not the shape from a top-down view (lateral extension) as asserted by the Appellant. One of ordinary skill in the art would understand the discussion of channel shapes in the '075 reference as showing the reference contemplates varying two characteristics/shapes of the channels. The first characteristic is the extension of the channel in the lateral direction and the second characteristic is the cross-sectional shape. Accordingly, the discussion in column 7 of the '075 reference would be read by one of skill in the art to be discussing the lateral extension of the channels and the cross-sectional shape of the channels as two separate characteristics. Further, one of skill in the art would, given two characteristics and two sets of examples, understand that one set of examples corresponds to the first characteristic and the second set of examples corresponds to the second characteristic.

The '075 reference includes discussion of the shape of the channels throughout its specification which supports the interpretation that the exemplary shapes refer to the shape of the lateral extension. First, the discussion of the exemplary shapes comes directly after mentioning the shape of the lateral extension and some of the considerations in choosing a lateral extension shape. The reference continues to discuss similar considerations directly after listing the exemplary shapes. *See* Col. 7:28-44. These considerations include "efficient transfer of etching agent," which support an interpretation that the example shapes are of the lateral extension of the channels. This interpretation is further supported by the other portions of the '075 reference which state the wafer "presents channelshaped [sic] recesses permitting lateral penetration of an etching agent." Col. 3:65-66. Accordingly, the exemplary shapes are examples of the shape of the channel's lateral extension.

Appellant has previously argued that the channel shapes recited are in reference to the lateral extension of the channels. In response, the Examiner presents arguments which go against the plain meaning of the words within the '075 reference and are opposite of the teachings of the '075 reference. The Examiner argues that in the '075 reference "the lateral

extensions refer to a lateral plane viewed from the side of the wafer (so as to be looking at the cross section of the extensions of the channels)” and that the ‘075 reference shows that “the lateral accessibility of the channels is sealed (at the edges) to form a hermetic seal thus when the applicant references ‘the geometric configuration of the channels 5, specifically the shape of the lateral extension,’ they are referencing the cross sectional shape of the channels.” Examiner’s Answer pages 9-10. However, it is clear from the ‘075 reference that the discussion of “lateral extension” is separate and distinct from the discussion of cross-sectional shape. The discussion of lateral accessibility involves the ability for the liquid to penetrate into the channels (laterally) in order to detach the individual chips. Col. 6:46-52. This penetration is linked to the lateral extension of the channels in the abstract (“the channel shaped recesses are formed which permit lateral penetration of an etching agent”) and in the discussion of the shape of the lateral extension of the channels (“efficient transfer of the etching agent”) Therefore, the ‘075 reference teachings show that the lateral channel extension into the wafer from the side is equivalent to, from a top-down view, the strips shown in figure 2, or the crisscrossing channels of figure 3. One of ordinary skill in the art would understand from the ‘075 references use of “linear” and “lateral” throughout the ‘075 reference, along with the plain meaning of the words, that “lateral extension” and “cross-section” have different meanings and refer to different aspects of the channel’s geometry.

Appellant’s interpretation of the ‘075 reference is further supported by the figures. The wafers of the ‘075 reference are “so structured that strip-shaped channels (5) are created which extend over the entire surface.” Col. 6:16-18. The lateral strip-shaped channels are shown in Figure 2 from the top-down view. The combination of Figure 2 and the discussion of the extension of strip-shaped channels support the interpretation that the ‘075 reference contemplates at least two aspects to the geometric configuration of the channels, the lateral extension and the cross-sectional shape. Accordingly, Examiner’s assertion that the discussion of exemplary channel shapes, which follows a specific discussion of lateral extension shape, is actually teaching cross-sectional shapes of the channels is untenable.

IV. Conclusion

In view of the above and the underlying Appeal Brief, Appellant submits that the §§ 102 and 103 rejections of 1-10 and 21-28 are improper and therefore requests reversal of the rejections as applied to the appealed claims and allowance of the entire application.

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Respectfully submitted,

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